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**Subject:** Background  
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Keith,

During our 12/21 PH Mgrs mtg I said I'd send you some references I have discussing background & ambient conditions. The references include:

- 1) EPA (Breckenridge & Crockett), 1995, "Determination of Background Concentrations of Inorganics in Soils and Sediment at Hazardous Waste Sites", EPA/540/S-96/500.
- 2) EPA, 2002, "Role of Background in the CERCLA Cleanup Program", OSWER 9285.6-07P.
- 3) EPA, 2002, "Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites", EPA 540-R-01-003, OSWER 9285.7-41.

The 3 EPA references generally define "background" as substances or locations that are not influenced by the releases from a site. EPA refers to both "naturally occurring" & "anthropogenic" background, & define each as:

Naturally-occurring substances present in the environment in forms that have not been influenced by human activity.

Anthropogenic substances are natural & man-made substances present in the environment as a result of human activities (not specifically related to the CERCLA site in question).

DEQ's 1994 Soil Cleanup Manual (Appendix C) provides guidance to assist RPs in determining representative site-specific background soil levels. Our guidance states (page C-2) that "Background samples need not be taken in the event the contaminating material does not occur naturally (e.g., chlorinated solvents, PCBs) since the background concentration for these compounds is assumed to be zero".

It's pretty clear we'll need to define both "naturally-occurring background" & "anthropogenic background" for the PH project. My own personal thoughts are:

1) Naturally-occurring background is, as EPA says..., "substances present in the environment in forms that have not been influenced by human activity." Although certain organic hazardous substances occur naturally (e.g., PAHs from forest fires), practically, naturally-occurring substances (particularly in an industrialized, urban environment such as Portland Harbor) will be restricted to inorganics (i.e., metals).

2) I don't particularly like the term "anthropogenic background"..., I think it confuses the issue of background vs "ambient conditions" or "baseline conditions" or "system-wide conditions". I personally think we should use the term "ambient conditions" when we refer to "anthropogenic background". However, EPA guidance uses the terms "naturally-occurring background" & "anthropogenic background", so I suppose we should too. I guess it's not a matter of what's right & what's wrong, it's simply a matter of convention, & what terms we all consistently agree to use.

I understand the LWG has a workgroup working on the issue of background. I also understand you'll ask that workgroup to develop definitions of background in the very near future as a 1st step in defining background conditions for the PH site. I hope this helps. Please call or reply with any questions or concerns.

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